K_{sp} Problems

1. The molar solubility of CaF_2 at 35°C is 1.24x10-3 mol L^{-1}, what is the K_{sp} at this temperature? The K_{sp} of $Ba(IO_3)_2$ at 25°C is $6.0x10^{-10}$. What is the molar solubility of $Ba(IO_3)_2$?

2. A saturated 1.00 L lead (II) iodide solution at 25°C contains 0.54 g of lead (II) iodide. Calculate the solubility product constant.

3. Calculate the solubility of $Mn(OH)_2$ in grams per liter when buffered at pH 7.0, 9.5, and 11.8.

4. Will $Ca(OH)_2$ precipitate from solution if the pH of a 0.050 *M* solution of $CaCl_2$ is adjusted to 8.0?

5. Will $AgIO_3$ precipitate when 100. mL of 0.010 *M* $AgNO_3$ is mixed with 10. mL of 0.015 *M* $NaIO_3$? (K_{sp} of $AgIO_3$ is $3.1x10^{-8}$)

6. A solution of Na_2SO_4 is added dropwise to a solution that is 0.010 *M* in Ba^{2+} and 0.010 *M* in Sr^{2+}. What concentration of SO_4^{2-} is necessary to begin precipitation? Which cation precipitates first?